

PALEONTOLOGY.—*Two new unionid pelecypods from the Upper Triassic.*¹ JOHN B. REESIDE, JR., U. S. Geological Survey.

Triassic unionid pelecypods of the United States include four species from the Dockum group of Texas described by Simpson² as *Unio subplanatus*, *U. dumblei*, *U. graciliratus*, and *U. dockumensis*; three species from the "Trias" (probably Chinle formation) of north-west New Mexico described by Meek³ as *Unio cristonensis*, *U. gallinensis*, and *U. terrae-rubrae*; two species from the Triassic of the Connecticut Valley, *Unio emersoni* Troxell⁴ and *U. wilbrahamensis* (Emerson);⁵ six species from the Newark formation of eastern Pennsylvania described by Pilsbry⁶ as *Diplodon pennsylvanicus*, *D. borealis*, *D. wanneri*, *D. carolus-simpsoni*, *D. yorkensis*, and *Mycetopoda diluculi*; and two species, also from Pennsylvania, described by Pilsbry⁷ as *Naiadites triassicus* and *N. wanneri*. All of these are believed to be Upper Triassic.

Pilsbry considers *U. dumblei* and *U. graciliratus*, because of the radial beak sculpture, as probably referable to *Diplodon* of the South American family Mutelidae rather than to typical *Unio* of the Holarctic family Unionidae. He suggests that when well-preserved specimens are found probably all of the other Triassic species will show relationship with the South American family, and that the Unionidae proper, which certainly appear in the Morrison formation, will be found to represent a migrant element coming to North America from Asia in Jurassic time.

In the western region, in addition to the Dockum group, unionid pelecypods have been noted at many localities in Upper Triassic rocks.

¹ Published by permission of the Director of the U. S. Geological Survey. Received Oct. 4, 1927.

² C. T. SIMPSON, *Description of four new Triassic unios from the Staked Plains of Texas*. Proc. U. S. Nat. Mus. 18: 381-385. 1896.

³ F. B. MEEK, *Description of three new species of Triassic unios from the Gallinas Range, New Mexico*. Ann. Rept. U. S. Geol. Surv. W. 100th Mer., Appendix LL, p. 83-84. 1875.

E. D. COLE, *The extinct Vertebrata*. Rept. U. S. Geol. Surv. W. 100th Mer. 4(2): 9. pl. 23, f. 2-7. 1877.

⁴ E. L. TROXELL, *Unios in the Triassic of Massachusetts*. Am. Journ. Sci. (4) 38: 460-462. 1914.

⁵ B. K. EMERSON, *A new bivalve from the Connecticut River Trias*. Am. Journ. Sci. (4) 10: 58. 1900.

⁶ H. A. PILSBRY in H. E. WANNER, *Some faunal remains from the Trias of York County, Pennsylvania*. Proc. Acad. Nat. Sci. Phila. 73: 30-37. 1921.

⁷ H. A. PILSBRY in H. E. WANNER, *Some additional faunal remains from the Trias of York County, Pennsylvania*. Proc. Acad. Nat. Sci. Phila. 78: 26-27. 1926.

The "Popo Agie" beds (Jelm formation), the Dolores formation, and particularly the Chinle formation have yielded them. These formations contain a similar fauna of vertebrates and are probably of about the same age. No unionids have been found in the earlier Triassic deposits.

A form from west Texas and one from northeastern Arizona, each represented by a single specimen in the collections of the U. S. National Museum, do not fit any of the described species and seem worthy of record as new. Both are of types not before noted in the western Triassic, though apparently paralleled by forms in the eastern region. Because of radial beak sculpture rather than concentric they should both be assigned to *Diplodon*, but the specimen from Texas seems to the writer to be very much like some of the highly sculptured types of Cretaceous Unionidae for which Pilsbry proposes the name *Proparreysia*.⁶

***Diplodon? haroldi* Reeside, n. sp.**

Figure 1

Shell suboval, small; beak small, subcentral; posterior and anterior ends both broadly rounded.

Sculpture of two sets of moderately strong ridges intersecting at an angle of about 60° on a line passing from the beak to the basal margin slightly posterior to the middle of the shell. The posterior slope has the strongest corrugations, the anterior and basal parts few or none. Basal part shows several coarse concentric ridges.

Hinge not preserved.

Length and height, as preserved, 35 and 25 millimeters; probable complete length and height, 40 and 30 millimeters.

Collected by Harold J. Cook in 1925 in Mitchell County, Texas, in the southeast corner of the Staked Plains. Dockum group.

This species is distinguished by its suboval form and by its relatively complex sculpture, resembling in some respects that of *Diplodon wanneri* but recalling much more that of such later species as *Unio (Proparreysia) holmesianus* White.⁸ It is really not very close to any of the described Triassic forms.

The associates of *D.? haroldi* at the locality of occurrence were *Unio dockumensis*, *U. graciliratus*, *U. cf. U. dumblei*, and some reptilian remains

***Diplodon gregoryi* Reeside, n. sp.**

Figure 2

Shell small, suboval; beak fairly prominent, subcentral; anterior end narrowly rounded, posterior end rather broadly rounded.

⁸ C. A. WHITE, *Contributions to paleontology. No. 4. Laramie.* 12th Ann. Rept. U. S. Geol. Surv. Terr., p. 67, pl. 22, f. 4. 1880.

Sculpture of about 15 nearly equal, broadly rounded radial ribs, with narrow shallow grooves between. Concentric sculpture weak except on the basal part. The radial ribs are weak or absent on the basal part of the shell.

Hinge unknown.

Length and height, as preserved, 13 and 11 millimeters; probable complete length and height, 16 and 12 millimeters.

Collected by H. E. Gregory in 1911 in Beautiful Valley, Navajo Indian Reservation, Arizona. Shinarump conglomerate.

This species is characterized by its form and its radial sculpture. No close relatives are known in the western Triassic. In the eastern Triassic *Diplodon pennsylvanicus* seems to be the closest, though it differs sharply in the anterior position of the beak and in the outline of the valve. *D.*

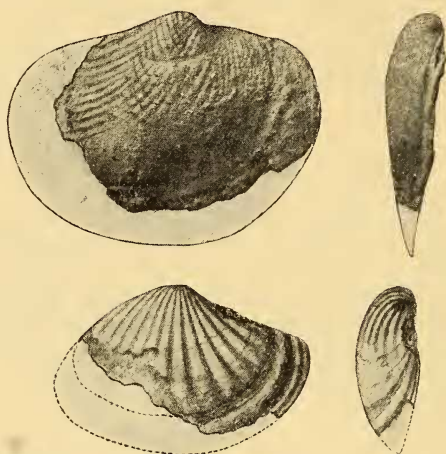


Figure 1—*Diplodon? haroldi* Reeside, n. sp., lateral and anterior views of type specimen, natural size (upper figures). Dockum group, Mitchell County, Texas. U. S. Nat. Mus. Cat. No. 73450.

Diplodon gregoryi Reeside, n. sp., lateral and anterior views of the type specimen, $\times 2$ (lower figures). Shinarump conglomerate, Beautiful Valley, Arizona. U. S. Nat. Mus. Cat. No. 73451.

borealis has a different type of sculpture, with its broad flat ribs and very narrow interspaces.

In the form and sculpture, *D. gregoryi* suggests strongly some marine species allied to *Cardita*, so much indeed that it was at first thought to be a marine species⁹—a very plausible assignment in view of the facts that carditoid shells are abundant in Mesozoic deposits, the specimen was accompanied by only fragments of other shells, and nothing remotely like it had been reported from fresh-water deposits in North America. There seems little reason now to doubt that it is a fresh-water fossil, and that its habitat was such as to conform to the current interpretation of the conditions of deposition of the Shinarump conglomerate.

⁹ H. E. GREGORY, *The Navajo Country*. U. S. Geol. Surv. Prof. Paper 93: 41. 1917.